

**ABSTRACT**

A system and a device that are used for liquid-gas phase mass transfer with elimination of contaminants. The systems includes a plurality of liquid membrane-producing cells. Upon contact, the liquid membranes collapse with a gas stream and the collapsed liquid material covers the suspended particles, and eliminates them by decantation. Moreover, the membrane cells increase the speed of the gas stream and cause the gas stream to hit the surface of the liquid at an incident angle of  $45^\circ$ , which serves to improve the transfer of vapor into the gas.